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Law Offices of  
**Fay Kaplun & Marcin, LLP**  
Intellectual Property Law

150 Broadway, Suite 702  
New York, New York 10038  
Phone: (212) 619-6000  
Fax: (212) 619-0276 / (212) 208-6819  
WWW.FKMIPLAW.COM

**FACSIMILE COVER SHEET**

**FAX NO** : (703) 746-6617

**TO** : Monica  
Office of Initial Examinations  
United States Patent and Trademark Office

**FROM** : Oleg F. Kaplun, Esq. (Reg. No. 45,559)  
(212) 619-6000 ext. 203

**DATE** : March 24, 2004

**SUBJECT** : U.S. Patent Application for *Method and Apparatus for Conducting Total Liquid Ventilation with Control of Residual Volume and Ventilation Cycle Profile*  
Serial No. 10/724,294 filed on November 28, 2003  
Our Ref.: 40128/00801

**NUMBER OF PAGES INCLUDING COVER : 2**

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**MESSAGE:**

Dear Monica:

Attached please find page 11 of the specifications for the above-identified patent application.  
Please kindly acknowledge receipt of this facsimile. Thank you very much for your help.

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types of patients, from premature newborn children to adults, the system according to the illustrative embodiment of the present invention should be made adaptable without the need for re-sizing and changing all components.

5           **[0038]** Modular and integrated features of the illustrative embodiment of the present invention meet with these requirements. More specifically, the illustrative embodiment of the present invention provides a module integrating in a single unit the following functions: oxygenation, heating, filtration, and condensation. A plurality of these modules can be arranged in series and/or in  
10 parallel in order to process a larger amount of liquid, should the necessity arise to ventilate persons of heavier weight.

**[0039]** In addition, the non-restrictive illustrative embodiment of the present invention enables selection of various ventilation cycles, which guide the health-  
15 care personnel in the phases prior to ventilation. A start-up phase warms the initial volume of liquid and maintains it at a desired temperature, and oxygenates the liquid at 100% saturation. A filling phase allows the lungs to fill with liquid, by means of a pump included in the ventilator system; the system indicates in real time the quantity of liquid being injected. Finally, the selected ventilation cycle is  
20 initiated, thus allowing injection and withdrawal of inspiratory and expiratory volumes of liquid.

**[0040]** The timing, volume and functional parameters for each ventilation cycle are entered on a control panel (for example touch panel 970 of Figure 12),  
25 which communicates continuously with the PLC 980, which in turn controls the entire ventilator. These parameters can be modified during the ventilation cycles. Different options are also available, such as modification of the inspiration and expiration profiles, stopping or starting of the functions, etc.